AMENDMENT TO THE SPECIFICATION

Please amend the specification as follows.

Please replace paragraph [0031] with the following:

-- [0031] It will be noted that for each transmission burst, there is a short training sequence which comprises a unique word attached to the transmitted data of length M. The short training sequence comprises for instance, between about ten to twenty symbols. However, those skilled in the art will appreciate that the present range of ten to twenty symbols can vary and still fall within the scope of the invention. The unique word is a known sequence of symbols used by the receiver ~~2~~ 312 for synchronization purposes. The receiver ~~2~~ 312 utilizes this Unique Word to first obtain estimation for θ, τ as vectors $\hat{\theta}$ and $\hat{\tau}$. --

Please replace paragraph [0033] with the following:

-- [0033] In FIG. 4, the graph 400 illustrates $\alpha(t)$ with t being the time offset from the eye-opening of the in-phase signal. It is periodic with period T and $\alpha(t)$ degenerates to zero when it is off by 1/4 of the symbol duration at 1/2 a symbol, it is of the same magnitude at $t = 0$ with an opposite sign. The following frequency estimators are formulated based on these analysis. --

Please replace paragraph [0041] with the following:

-- [0041] Referring to FIG. 8, ~~FIG. 8~~ the graph 800 shows the root mean square of the modified algorithm 804 in comparison with the basic algorithm 802 and the theoretical Cramer Rao Bound 806. It is seen that the improvement in terms of root-means-square error is very modest between plots 802 and 804. However, graph doesn't account for cumulative probability distribution error. FIGs. 9-11 account for a cumulative probability distribution error at different signal to noise ratios. From these graphs, it can be seen that the asymptotes are improved by about one order of magnitude. For coded systems, it often means that the performance of the coded system can be improved by an order of magnitude when the system performance is dominated by synchronization error. --